



County of Roanoke

FINANCE DEPARTMENT PURCHASING DIVISION

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Roanoke, VA 24018
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INVITATION TO BID

BID CP #0458

for

Safety Barrier for the Police Driver Training Center

Pre-Bid Conference Meeting on February 20, 2004 at 10:00 AM

Three (3) complete copies of Sealed Bids Due

March 12, 2004

2:00 PM
(Local Prevailing Time)

Safety Barrier for the Police Driver Training Center

CP # 0458

The County of Roanoke, Virginia, is requesting sealed bids for a contractor to provide all safety barrier products and installation for the Police Driver Training Center. Specifications are provided.

A pre-bid conference will be held on the job site at 6231 Twine Hollow Road at 10:00 a.m. on Friday, February 20, 2004. Although this pre-bid is not mandatory, it is highly recommended and additional documents will be available. Call if directions are needed.

Three (3) complete copies of the bid will be accepted at and until **2:00 PM (local prevailing time) on March 12, 2004**, at the Purchasing Office (address below). As this is a sealed formal Invitation to Bid, faxed bids will NOT be accepted. Bids not received by the date and time listed above will be returned to the Offeror unopened.

Bid documents may be picked up at Roanoke County Purchasing located at 5204 Bernard Drive, Suite 300-F, Roanoke VA, by phoning 540 772-2061, by faxing 540 772-2074, or by downloading from www.co.roanoke.va.us/procure. (All documents not available via internet site, but may be requested).

Roanoke County shall provide the mechanism for the evaluation of all information received. Roanoke County reserves the right to make the final determination of responsible offerors and to waive informalities and/or irregularities and to accept or reject any or all bids. Roanoke County reserves the right to award all or only parts of the bid.

The award of this project will be totally contingent upon the availability of funding and Roanoke County reserves the right to negotiate with low bidder if project costs exceed budgeted amount.

Individuals with disabilities, who require assistance or special arrangement in order to participate in bidding, please contact me. We require that you provide at least 48 hours notice so that reasonable efforts may be made to provide the proper arrangements. You may be requested to specify the nature of any accommodations or assistance, which may be required for your participation.

Roanoke County solicits participation from minority-owned businesses.

If you have questions concerning this Invitation to Bid, please contact Pat Chockley, (540) 772-2061, Ext. 307, or if you need directions to the site or technical information contact Asst. Chief Terrell Holbrook, Roanoke County Police Department, Phone: (540) 561-8068.

SCOPE OF WORK:

Location of Project: Dead End of Twine Hollow Road
 Dixie Caverns area of West Roanoke County (6231 Twine Hollow Road).

The County is requesting safety barrier products and installation per the following specifications:

- All safety barrier products proposed for use by the contractor must either be a product approved for use in Virginia by the Virginia Department of Transportation or meet the Department of Transportation NCHRP 350 standard. Installation must be in accordance to all VDOT standards & specifications.
- Contractor may bid all or parts of listed barrier product options below as the County will be making a decision based on product safety, cost and installation of each option. For all listed options, contractor must supply NCHRP 350 approved rail end terminals:

Option A (specifications below):

1. Strong-Post Modified Thrie-Beam and Median Barrier test Level 4 (TL-4) and commonly identified as SGRO9b.

2. 432mm spacer block
3. PWE04 Wide-Flange Guardrail Post
4. Guardrail Fasteners FBX16a and FBB02
5. W to Thrie-Beam Transition

Option B:

1. VDOT approved Guardrail (GR-2)

Option C:

1. Used Guardrail (rail with any combination of components which are capable of providing adequate safety thresholds for the site).

Option D:

1. New guardrail using any combination of above guardrail which is capable of providing adequate safety thresholds for the site.

Specifications for Option A: See Attachment A.

- Coverage area for safety barrier extends from approximately 2,000 to 3,400 linear feet. Exact distance on proposed safety rail systems will be determined through collaborative assessment of contractor, County and utilizing contractor's bid.
- County has excavation equipment (backhoe) on site and County prefers to dig any recommended end trenches for rail termination. County will work with contractor for proper excavation and backfill requirements and supply labor and equipment. Contractor will be responsible for all post placement and installation, block and guardrail erection, and all agreed upon rail ends.
- As property is on controlled private property with no motor vehicle traffic, Contractor neither expected nor required to provide for any traffic control measures.
- County expects completed installation of rail and safety systems, weather permitting, no later than May 12, 2004.
- Used rail, posts and blocks are an acceptable product as long as the structural integrity of the product is not compromised. Function, safety and being NCHRP compliant will determine if a product is acceptable. Appearance is the least factor considered in accepting a product.
- Bids will be evaluated and a selection made based, in large part, on the contractors estimated cost for the total project.

Bidder shall furnish all labor, materials, equipment, services and supervision required to complete this project complying with the outlined specifications.

The Bidder shall examine the work site prior to submitting a bid. The submission of a bid shall be evidence that this requirement has been met. Failure to inspect the site prior to bidding will not relieve the bidder of the responsibility to performing all the work included in the bid.

Bidder agrees to start work no later than 15 days after granted Notice to Proceed.

INSTRUCTIONS TO BIDDERS

I. GENERAL

1. The intent of the drawings and specifications is that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the work in accordance with the Contract Documents and all incidental work necessary to complete the project in an acceptable manner, ready for use, occupancy or operation by the Owner.
2. Any item that is shown on the plans but not mentioned in the specifications, or mentioned in the specifications but not shown on the plans, shall be considered as being both shown on the plans and mentioned in the specifications.
3. The entire work provided for in the specifications and shown on the plans is to be accomplished even though every item and minor detail for the proper installation and successful operation of the entire work is not mentioned in the specifications or shown on the plans.
4. The cost of any item whatsoever not listed in the Bid Form, yet which is mentioned in the specifications or shown on the plans, shall be considered to be included in the cost of some other item of Bid in the Bid Form.
5. "Contract Documents" shall include the Invitation to Bid, the Instructions to Bidders, the Bid Form, the Contract Forms, the Bonds, the Special Forms, the General and Special Conditions, the Technical Specifications, any Addenda or Change Orders, any Detailed Drawings and the Construction Plans.
6. Should there be any questions concerning the Contract Documents, the prospective Bidder shall bring the same to the attention of the Owner in writing. Should the prospective Bidder fail to do so before submitting a bid, the Bidder shall accept the resolution of any question provided by the Owner.
7. Any permits obtained by the Owner shall be made part of and attached to the Contract Documents.
8. Contractor is responsible for following and obtaining all Federal, State and Local procedures, licenses and certifications required for this project. The contractor shall furnish proof before any work can be done of their "certificate of insurance" and appropriate licenses.

II. QUALIFICATIONS OF BIDDERS

1. The County of Roanoke may conduct an investigation, as it deems necessary, to determine the ability of the Bidder to perform the work in accordance with the time schedule included in the Contract Documents, and, if such an investigation is performed, the Bidder shall furnish the County all information and data requested by the County. The County reserves the right to reject any bid if the evidence submitted by, or the investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligation of the Contract Documents and to complete the work contemplated therein in accordance with established completion schedule.
2. Bidders shall, when requested by the County, be prepared to furnish, in writing, the following information within three (3) working days after receipt of such request.
 - a. The permanent business address of the Bidder.
 - b. Whether the Bidder has plant and equipment adequate to perform the work properly and expeditiously, and if so, a list of the plant and equipment available for this work.
 - c. Whether the Bidder has appropriate technical experience, and if so, a description of the projects which Bidder has carried out, together with the names and addresses of the engineers in charge of the work.

- d. A financial statement, under oath, showing the assets, obligations and net worth of the Bidder, and the name of banking connections, said statement to be current to the month within which the bid was submitted.

III. INTERPRETATION OF CONTRACT DOCUMENTS

1. All questions concerning the meaning or intent of the Contract Documents shall be submitted in writing to the County in care of Pat Chockley, Buyer, Purchasing Office. Replies will be issued by addenda mailed or delivered to all parties recorded by the Buyer, Pat Chockley of the Purchasing Office, as having received the Contract Documents. Questions received less than 5 days prior to the date for opening of the Bids will not be answered. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

IV. ADDENDA

1. Addenda will be mailed or delivered to all who are known by the Buyer, Pat Chockley of the Purchasing Office, to have received a complete set of Contract Documents.

V. PREPARATION OF BIDS

1. Each Bidder is urged to examine carefully the Contract Documents for the work. The County of Roanoke will assume that the Bidder has considered the character, quality, and quantities of work to be performed, the materials to be furnished and the requirements of the Contract Documents. The submission of a Bid shall be considered evidence that the Bidder has made such examination.
2. Bids must be submitted upon the blank Bid Form provided in the Contract Documents. Except as may be otherwise noted, the blank spaces in the Bid Form must be filled in and no changes shall be made in the phraseology of the Bid Form.
3. A Bid Form that contains any omissions, erasures, alterations, items not called for or irregularities of any kind, at the discretion of Roanoke County, may be rejected as informal.
4. The Bid Form shall specify the Base Bid, written with ink or typed in both words and figures, for which the work will be performed according to the Contract Documents. In the event of discrepancy between the two expressed Base Bids, the word amount shall govern. Any unit prices for separate items or any Alternates as called for in the Bid Form shall be written with ink or typed in figures in the appropriate blanks.
5. Each Bidder shall comply with all applicable Roanoke County Ordinances and State of Virginia Laws. Each Bidder is required, under Chapter 7 of the Virginia Code of 1950, as amended, to show evidence of a Certificate of Registration before a Bid can be received and considered. Each Bidder will place Bidder's State Registration Number (Contractor's License Number) in the appropriate blank on the Bid Form.

VI. SUBMISSION OF BIDS

1. The Bid Form, the Bid Security, and any other Document required to be submitted as the Bid shall be enclosed in a sealed envelope and addressed as follows:

County of Roanoke Purchasing Office
c/o Pat Chockley, Buyer
5204 Bernard Drive, Suite 300F
Roanoke VA 24018-0798

Place in the lower left-hand corner of the envelope the project title as indicated at the top of the Invitation to Bid. Place in the upper left-hand corner of the envelope the Bidder's name, State Registration Number and mailing address.

2. The Bidder is responsible for the timely delivery at the location designated for receipt of Bids.
3. Bids shall be delivered to the designated location prior to the time and date for receipt of Bids indicated in the Invitation to Bid. Bids received after that time and date will be returned unopened.
4. Each Bid must be accompanied by a Bid Security in an amount equal to five percent (5%) of the Base Bid. The Bid Security shall be in the form of Cash, Letter of Credit issued by a Banking Institution, Certified Check or Bid Bond payable to the County of Roanoke. The Bid Bonds shall be duly executed by the Bidder as Principal and a Corporate Surety authorized to do business in the State of Virginia.

VII. WITHDRAWAL OF BIDS

1. Bids may be withdrawn at any time prior to the time and date of the Opening of Bids.
2. After the opening of the Bids, Bidders may only withdraw Bids that were substantially lower than other Bids because of clerical error. The Bidder must give to the County of Roanoke notice in writing of Bidder's request to withdraw the Bid within two (2) business days after the conclusion of the Opening of Bids. This provision shall be as directed by the Roanoke County Code.

VIII. OPENING OF BIDS

1. No responsibility will be attached to the County of Roanoke for the premature opening of Bids not properly addressed and identified, as stipulated in Paragraph VI.1.
2. Bids will be opened and read aloud at the time, date and place stipulated in the Invitation to Bid and the contents made public for the information of the Bidders and other interested persons.

IX. REJECTION OF BIDS

1. The County of Roanoke reserves the right to waive any informality in the Bids and to reject any or all Bids, should it be deemed in the best interest of the County of Roanoke.
2. Reasonable grounds for believing that any Bidder is interested in more than one Bid for the same Contract shall cause the rejection of all Bids in which that Bidder is interested.
3. The Bid security will be promptly returned to all Bidders of rejected bids after the County of Roanoke and the Accepted Bidder have executed the Contract.
4. Should no award or written "Notice of Bid Acceptance" have been made by the County of Roanoke ninety (90) consecutive calendar days after the Opening of Bids, the Bidder may obtain the Bid Security from the Office of the County Director of Purchasing.
5. The County reserves the right to negotiate with the low bidder if the low bid is greater than the budget for the project.

X. ACCEPTANCE OF BIDS

1. The County of Roanoke reserves the right to accept alternates in any order or combination or to award the Contract to a Bidder other than the low Bidder, should it be deemed in the best interest of the County of Roanoke.
2. Within sixty (60) consecutive calendar days after the Bid Opening date, the County of Roanoke may give written "Notice of Bid Acceptance." The successful Bidder may be required to execute the Contract and furnish the County of Roanoke a Performance Bond and a Labor and Material Payment Bond each in the amount of One Hundred percent (100%) of the Contract amount, all of which shall be completed on blank forms provided in the Contract Documents, with a surety on each Bond provided by a Security Company authorized to transact business in the State of

Virginia. Attorneys-in-fact who execute Contract Bonds must file with each bond a certified copy of their Power of Attorney dated the same date as the Bonds are executed. (See Part II, Section 22 & 29)

3. Within ten (10) consecutive calendar days from the receipt of written notice from the Roanoke County Purchasing Office, the successful Bidder shall execute the Contract with and furnish to the County of Roanoke the required bonds.
4. Upon the execution of the Contract and approval of the Bonds, the Bid Security shall be returned to the successful Bidder. Should the successful Bidder fail or refuse to execute the Contract or furnish the required Bonds within the stipulated time, the Bid Security shall be forfeited to the County of Roanoke as liquidated damages.
5. Work shall commence only upon the receipt of a written "Notice to Proceed" from the owner. The consecutive calendar days for completion shall start from the date stipulated in the written "Notice to Proceed."
6. The Contractor shall be required to furnish a schedule for the timely completion of the project prior to beginning work and from time to time during construction submit on the same schedule the actual work completed.

XI. EVALUATION OF BIDS

Bids will be evaluated by County Staff on the basis of:

- price
- product
- responsiveness
- experience
- qualifications
- past contracts with the County
- financial status of Contractor

GENERAL TERMS AND CONDITIONS

1. DEFINITIONS

- 1.1 Wherever used in the **CONTRACT DOCUMENTS**, the following terms shall have the meanings indicate which shall be applicable to both the singular and plural thereof:
- 1.2 **ADDENDA** - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the **CONTRACT DOCUMENTS**, **DRAWINGS**, and **SPECIFICATIONS**, by additions, clarifications or corrections.
- 1.3 **BID** - The offer or proposal of the **BIDDER** submitted on the prescribed form setting forth the prices for the **WORK** to be performed.
- 1.4 **BIDDER** - Any person, firm, or corporation submitting a **BID** for the **WORK**.
- 1.5 **BONDS** - Bid, Performance, and Payment Bonds and other instruments of security, furnished by the **CONTRACTOR** and his surety in accordance with the **CONTRACT DOCUMENTS**.
- 1.6 **CHANGE ORDER** - A written order to the **CONTRACTOR** authorizing an addition, deletion, or revision in the **WORK** within the general scope of the **CONTRACT DOCUMENTS**, or authorizing an adjustment in the **CONTRACT PRICE** or **CONTRACT TIME**.

- 1.7 **CONTRACT DOCUMENTS** - The contract, including Advertisement for Bids, Information for Bidders, General Conditions, Supplemental General Conditions, BID, Technical Specifications and Special Conditions, Bid Bond, Agreement, Payment Bond, Performance Bond, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, and ADDENDA.
- 1.8 **CONTRACT PRICE** - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.9 **CONTRACT TIME** - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.
- 1.10 **CONTRACTOR** - The persons, firm, or corporation with whom the OWNER has executed the Agreement.
- 1.11 **DRAWINGS** - The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.
- 1.12 **ENGINEER** - The Roanoke County Utility Engineer or person, firm, or corporation designated by the OWNER to supervise the WORK and/or administer the CONTRACT DOCUMENTS.
- 1.13 **FIELD ORDER** - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.
- 1.14 **FINAL ACCEPTANCE** - The date as certified by the ENGINEER that the WORK has been completed in accordance with the CONTRACT DOCUMENTS and that final payment can be made.
- 1.15 **NOTICE OF AWARD** - The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.
- 1.16 **NOTICE TO PROCEED** - Written communication issued by the OWNER or authorized agent to the CONTRACTOR authorizing the Contractor to proceed with the WORK and establishing the date of commencement of the WORK.
- 1.17 **OWNER** - The Board of County Supervisors for Roanoke County, Virginia, or their authorized agent.
- 1.18 **PROJECT** - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.19 **RESIDENT PROJECT REPRESENTATIVE** - The authorized representative of the OWNER who is assigned to the project site or any part thereof.
- 1.20 **SHOP DRAWINGS** - All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER, or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.21 **SPECIFICATIONS** - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- 1.22 **SUBCONTRACTOR** - An individual, firm, or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.

- 1.23 **SUBSTANTIAL COMPLETION** - That date as certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.
- 1.24 **SUPPLEMENTAL GENERAL CONDITIONS** - Modifications to General Conditions required for the PROJECT, or such requirements that may be imposed by applicable state laws, or required to clarify or amplify the General Conditions.
- 1.25 **SUPPLIER** - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.
- 1.26 **WORK** - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.
- 1.27 **WRITTEN NOTICE** - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at their last given address, or delivered in person to said party or their authorized representative on the Project.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

- 2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.
- 2.2 The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS, AND RECORDS

- 3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedule, payrolls, reports, estimates, records, and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.
- 3.2 Prior to beginning work the CONTRACTOR shall submit construction progress schedules showing the order in which the CONTRACTOR proposes to carry out the WORK, including dates at which the CONTRACTOR will start the various parts of the WORK, estimated date of completion of each part, and, as applicable:
 - 3.2.1 The dates at which special detail drawings will be required; and
 - 3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.
- 3.3 CONTRACTOR shall also submit a schedule of payments anticipated to be earned during course of WORK.

4. DRAWINGS AND SPECIFICATIONS

- 4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.

- 4.2 In case of conflict between DRAWINGS and SPECIFICATIONS, SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.
- 4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies, or ambiguities shall be done at the CONTRACTOR'S risk.

5. SHOP DRAWINGS

- 5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWING shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWING which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER. SHOP DRAWINGS, catalog cuts, samples, schedules, etc. shall be submitted for all materials and equipment. On initial submittals, three copies of each item shall be required. Once the review is complete and all corrections made, five copies of the final SHOP DRAWINGS shall be submitted for approval and distribution to all parties.
- 5.2 When submitted for the ENGINEER'S REVIEW, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked, and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.
- 5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. MATERIALS, SERVICES, AND FACILITIES

- 6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.
- 6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection. All equipment, including but not limited to motors, drives, gear reducers, electrical switch gear, heating, ventilation and air conditioning equipment, communication and instrumentation shall be stored in a secure, heated, ventilated and dry space. Storage must be approved by the ENGINEER. The ENGINEER'S approval of the storage plan shall not release the CONTRACTOR from responsibility for the equipment. Equipment that is not suitably stored shall not be paid for until storage requirements are met. The CONTRACTOR shall be required to comply with the manufacturers' requirements concerning lubrication, oil changes, and other special conditions during the storage period and until the equipment is installed, start-up of the equipment is instituted, and the equipment is finally accepted or determined as substantially completed.
- 6.3 Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- 6.4 Materials, supplies, and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.

- 6.5 Materials, supplies, or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.
- 6.6 Materials, supplies, or equipment to be included into the WORK shall be new and unused.

7. INSPECTION AND TESTING

- 7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.
- 7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS. The CONTRACTOR shall notify the OWNER of the work schedule planned in order that adequate inspection can be made. No work may be performed in any day on which it was not scheduled. A minimum of 12 hours notice of change in work schedule must be given to OWNER by CONTRACTOR. If CONTRACTOR does not work on a scheduled day, the CONTRACTOR will be charged the cost incurred by the OWNER for the lost work of the inspector.
- 7.3 The CONTRACTOR shall provide at his expense the testing and inspection services required by the CONTRACT DOCUMENTS.
- 7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.
- 7.5 Inspections, tests, or approvals by the ENGINEER or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6 The ENGINEER and other owner representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all WORK, materials, and payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide facilities for such access and observation of the WORK and also for any inspection, or testing thereof.
- 7.7 If any WORK is covered contrary to the written instructions of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for observation and replaced at the CONTRACTOR'S expense.
- 7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose, or otherwise make available for observation, inspection, or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

- 8.1 Whenever a material, article, or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue number, it shall be understood that the first brand name listed in the SPECIFICATIONS is that around which the DRAWINGS have been prepared. Should the second or another brand name be utilized in preparing the BID, the CONTRACTOR shall be responsible for assuring that the costs of all changes, including costs of changes to the CONTRACT DOCUMENTS, required by such use are also included in the BID. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue cut, if piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. PATENTS

- 9.1 The CONTRACTOR shall pay all applicable royalties and license fees. The CONTRACTOR shall defend all suits or claims for infringement of patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, however, if the CONTRACTOR has reason to believe that the design, process, or product specified is an infringement of a patent, CONTRACTOR shall be responsible for such loss unless CONTRACTOR promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS

- 10.1 The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations, and other working points, lines, elevations, and cut sheets.
- 10.2 The CONTRACTOR shall carefully preserve bench marks, reference points, and stakes; and, in case of willful or careless destruction, CONTRACTOR shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.
- 10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the OWNER unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses, and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, CONTRACTOR shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS

- 11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR will take all necessary precautions for the safety of, and will protect the persons who may be affected thereby, protect all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and protect other property at the site adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- 11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction. The CONTRACTOR will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. The CONTRACTOR will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER or the ENGINEER or anyone employed by either or them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.
- 11.3 In emergencies affecting safety of persons or the WORK or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, shall act to prevent threatened damage, injury, or loss. CONTRACTOR will give OWNER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

- 12.1 CONTRACTOR shall supervise and direct the WORK. CONTRACTOR shall be solely responsible for means, methods, techniques, sequences, and procedures of construction. CONTRACTOR shall employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by CONTRACTOR as CONTRACTOR'S representative at the site. Supervisor shall have full authority to act on behalf of CONTRACTOR and all communications given to the supervisor shall be as binding as if given to CONTRACTOR. Supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

- 13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.
- 13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME or both, in which event he shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter, the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE

- 14.1 The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:
- 14.1.1 Unit prices previously approved. Under this method, it is understood that addition to or deletion of quantities of WORK in excess of 25 percent may be cause for review of the agreed unit price.
 - 14.1.2 An agreed lump sum. For the negotiation of the agreed lump sum amount, the CONTRACTOR shall furnish the ENGINEER a breakdown of all labor, materials, supplies, and equipment utilizing the costing principles described under 14.1.3.
 - 14.1.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the WORK. In addition, there shall be added an amount to be agreed upon but not to exceed 15 percent of the actual cost of the WORK to cover the cost of general overhead and profit. To amplify the items described under 14.1.3, labor shall include the crew foreman but not other supervisory personnel, labor costs shall include taxes, insurance, and actual fringe benefits paid; and, rental rates for equipment owned by the CONTRACTOR shall not exceed 75 percent of Associated Equipment Distributors book rental monthly rates. To costs incurred by SUBCONTRACTORS for changes in the WORK, there shall be an added amount not to exceed 10 percent of the subcontract to cover the cost of general overhead and profit.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- 15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.
- 15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.
- 15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount of \$150,000 for liquidated damages for each calendar day that the Contractor shall be in default after the time stipulated in the CONTRACT DOCUMENTS.
- 15.4 The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.
- 15.4.1 To any preference, priority or allocation order duly issued by the OWNER.
 - 15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather.

15.4.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. CORRECTION OF WORK

- 16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.
- 16.2 All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. SUBSURFACE CONDITIONS

- 17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of any emergency, notify the OWNER by WRITTEN NOTICE of:
- 17.1.1 Subsurface or latent physical conditions at the site differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.1.2 Unknown physical conditions at the site, of unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.2 The OWNER shall promptly investigate the conditions, and if the OWNER finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required WRITTEN NOTICE; provided that the OWNER may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

- 18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety (90) days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which notice shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.

- 18.2 If the CONTRACTOR is adjudged a bankrupt or insolvent; or if the CONTRACTOR makes a general assignment for the benefit of CONTRACTOR'S creditors; or if a trustee or receiver is appointed for the CONTRACTOR or for any of the CONTRACTOR'S property; or if the CONTRACTOR'S files a petition to take advantage of any debtor's act; or to reorganize under the bankruptcy or applicable laws; or if the CONTRACTOR repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; or if the CONTRACTOR repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials, or equipment; or if the CONTRACTOR disregards laws, ordinances, rules, regulations, or orders of any public body having jurisdiction of the WORK; or if the CONTRACTOR disregards the authority of the ENGINEER; or if the CONTRACTOR otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment, and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method the OWNER may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.
- 18.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the CONTRACT. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.
- 18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER; or under any order of court or other public authority; or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted; or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER, terminate the CONTRACT and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days WRITTEN NOTICE to the OWNER and the ENGINEER stop the WORK until he has paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK.
- 18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENTS TO CONTRACTOR

- 19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect his interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within ten (10) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate.
- 19.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.
- 19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or SUBSTANTIALLY COMPLETED portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.
- 19.4 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.
- 19.5 The final payment request must be accompanied by a "Release of Surety" prior to acceptance of the request by the ENGINEER. Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted by him under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of the completion and acceptance of the WORK.
- 19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so, the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonable sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party.
- In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

- 19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

- 20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the PERFORMANCE BOND and PAYMENT BONDS.

21. INSURANCE

- 21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S execution of the WORK, whether such execution be by himself or by any SUBCONTRACTOR or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
- 21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts; and
 - 21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees; and
 - 21.1.3 Claims for damages because of bodily injury, sickness liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and
 - 21.1.4 Claims for damages because of bodily injury, sickness, or disease, or death of any person other than his employees; and
 - 21.1.5 Claims for damages because of injury in or destruction of tangible property, including loss of use resulting there from.
- 21.2 Certificates of insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These certificates shall contain a provision that coverages afforded under the policies will not be canceled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.
- 21.3 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:

- 21.3.1 CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting him from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under the CONTRACT DOCUMENTS, whether such operations be by himself or by any SUBCONTRACTOR under him, or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR under him. Insurance shall be written with a limit of liability of not less than \$1,000,000 for all damages arising out of bodily injury, including death, at any time resulting there from, sustained by any one person in any one accident; and a limit of liability of not less than \$1,000,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$1,000,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$1,000,000 aggregate for any such damage sustained by two or more persons in any one accident.
- 21.3.2 The CONTRACTOR shall acquire and maintain Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and the SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.
- 21.3.3 The CONTRACTOR shall acquire and maintain such special insurance coverage as required by the railroad crossing license/permit
- 21.4 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the WORK is performed. Workmen's Compensation Insurance, including occupational disease provisions, for all of his employees at the site of the PROJECT and in case any WORK is sublet, the CONTRACTOR shall require each SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous WORK under this CONTRACT at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of his employees not otherwise protected.
- 21.5 The CONTRACTOR shall secure "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not less than the losses due to fire, explosion, hail, lightening, vandalism, malicious mischief, wind, flood, collapse, riot, aircraft, and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, the ENGINEER, and the OWNER.

22. CONTRACT SECURITY

22.1 The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a Performance Bond and Payment Bond in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions, and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the State of Virginia and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in Virginia or is removed from the list of Surety Companies accepted on Federal BONDS, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER. **The Performance Bond shall remain in full force and effect through the guarantee period.**

23. ASSIGNMENTS

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign, or otherwise dispose of the CONTRACT or any portion thereof, or of their right, title, or interest therein, or their obligations hereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that such claims, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property including the loss of use resulting there from; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER or ENGINEER'S employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS (Not Applicable)

25.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate the CONTRACTOR'S WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

- 25.2 The OWNER may perform additional WORK related to the PROJECT, or OWNER may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the OWNER, if the CONTRACTOR is performing the additional WORK), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate the CONTRACTOR'S WORK with theirs.
- 25.3 If the performance of additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, WRITTEN NOTICE thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves the CONTRACTOR in additional expense or entitles the CONTRACTOR to an extension of the CONTRACT TIME, the CONTRACTOR may make a claim therefore as provided in Sections 13 and 14.

26. SUBCONTRACTING

- 26.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty CONTRACTORS.
- 26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(S), in excess of 50 percent of the CONTRACT PRICE, without prior written approval of the OWNER. For purposes of this paragraph, purchase of materials and equipment by the CONTRACTOR with their installation by SUBCONTRACTORS shall not be considered part of the CONTRACTOR'S WORK.
- 26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of any SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as the CONTRACTOR is for the acts and omissions of persons directly employed by the CONTRACTOR.
- 26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.
- 26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

27. ENGINEER'S AUTHORITY

- 27.1 The ENGINEER shall act as the OWNER'S representative during the construction period. The ENGINEER shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. The ENGINEER shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.
- 27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply at the ENGINEER'S discretion.
- 27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- 27.4 The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

28. LAND AND RIGHT-OF-WAYS

- 28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and right-of-ways necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.
- 28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and right-of-ways acquired.
- 28.3 The CONTRACTOR shall provide at CONTRACTOR'S own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

29. GUARANTY

- 29.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of FINAL ACCEPTANCE. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of FINAL ACCEPTANCE of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects.

The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. **The PERFORMANCE BOND shall remain in full force and effect through the guarantee period.**

30. TAXES

- 30.1 The CONTRACTOR will pay all sales, consumer, use, and other similar taxes required by the law of the place where the WORK is performed.

31. CLEAN UP ON COMPLETION OF PROJECT

- 31.1 On completion of the WORK covered by any of the sections of this PROJECT, the CONTRACTOR for said section shall clean up the entire premises occupied by his operations, and this area shall be left neat and clean of trash, debris, piles of earth, waste materials or equipment. All surplus; materials and equipment, trash, debris, and other foreign matter shall be disposed of as directed by the ENGINEER or OWNER. The entire project or sections thereof shall be made ready for the OWNER'S use, and the CONTRACTOR shall assist as may be necessary in placing any equipment furnished under the contract in proper operating condition.

32. WORK HOURS

- 32.1 It is understood that the CONTRACTOR will work a 40-hour week, Monday through Friday. If the CONTRACTOR wishes to perform work outside the regular hours, or on Saturdays or holidays, he shall request permission of the ENGINEER in order that arrangements may be made for proper inspection of the WORK. The CONTRACTOR shall make a reasonable effort to avoid undue noise during WORK outside the regular hours. The ENGINEER may refuse permission to WORK outside the regular hours for just cause.

33. PROJECT IDENTIFICATION SIGNBOARD

Not required for this project.

34. SUPPLEMENTAL CONDITIONS

- 34.1 The following additions to, substitutions for, or explanation of the GENERAL CONDITIONS, if any, shall be included as part of these CONTRACT DOCUMENTS. The number utilized refers to those contained in the GENERAL CONDITIONS.

35. NONDISCRIMINATION PROVISIONS

- 35.1 The successful Contractor agrees not to discriminate against any employee or applicant for employment because of age, race, religion, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of the nondiscrimination clause.
- 35.2 The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that the Contractor is an equal opportunity employer. Notices, advertisements, and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 35.3.1 The Contractor will include the provision of the foregoing paragraph in every subcontract or purchase order over ten thousand dollars (\$10,000.) so that the provisions will be binding upon each subcontractor or vendor.

36. DRUGFREE WORKPLACE

- 36.1 During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in violation of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

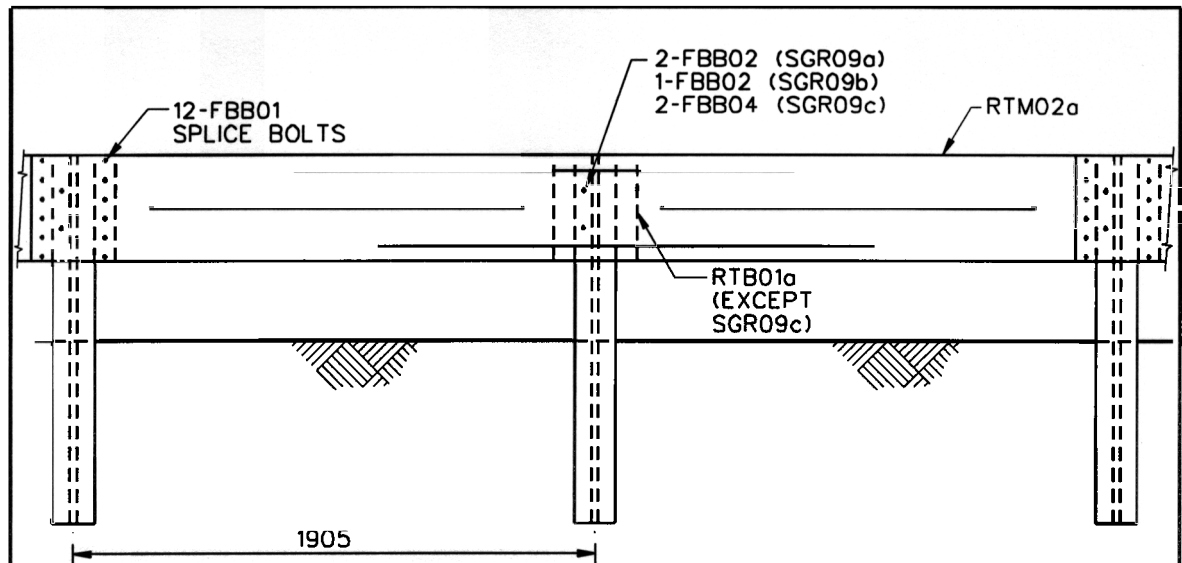
For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

**BID FORM AND SIGNATURE SHEET
FOR CP # 0458
SAFETY BARRIER PRODUCTS AND INSTALLATION
AT THE POLICE DRIVER TRAINING CENTER**

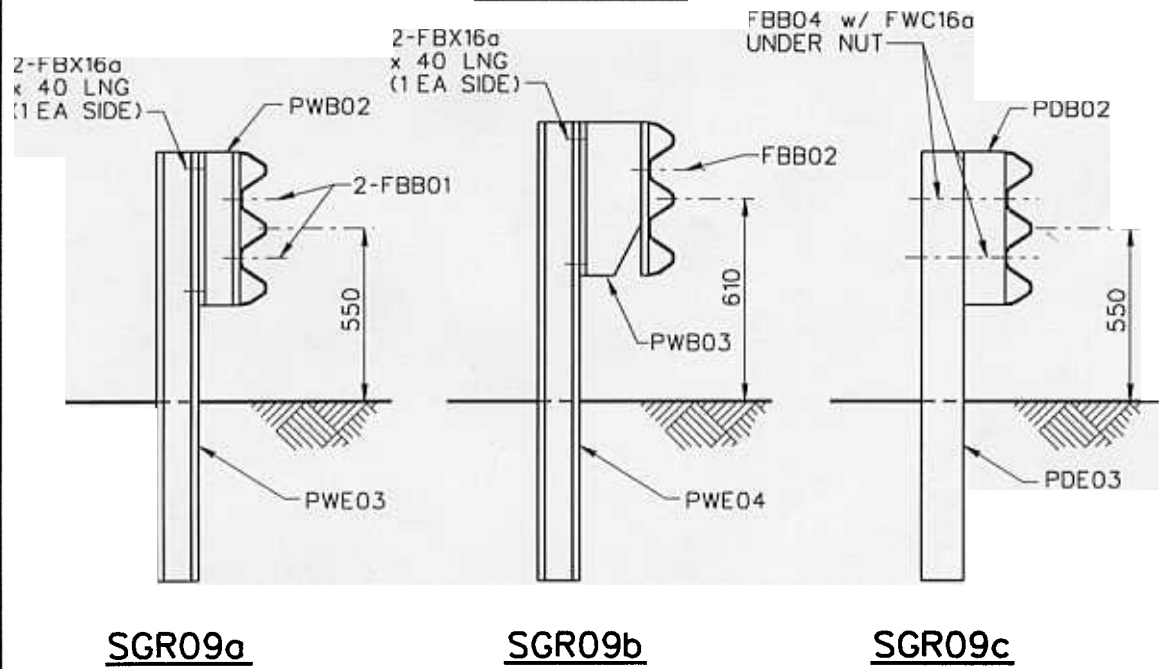
BIDDER CERTIFIES THAT BY SUBMISSION OF THIS BID, HE HAS READ AND AGREES TO THE TERMS AND CONDITIONS SET FORTH IN THIS INVITATION TO BID.

Please provide pricing for any or all of the following to include labor for installation:

	Quantity	Price Per Linear Foot	Total
<u>Option A:</u> Strong-Post Modified Thrie-Beam Guardrail and Median Barrier Test Level 4 (TL-4) 432mm Spacer Block PWE04 Wide-Flange Guardrail Post Guardrail Fasteners FBX16a and FBB02 Other _____		\$	\$
<u>Option B:</u> VDOT approved Guardrail (GR-2) to include spacer blocks, posts and fasteners. Other: _____			\$
<u>Option C:</u> Used Guardrail Products for either option listed above. List product bid: _____ _____ _____			



ELEVATION



1994

STRONG-POST THRIE-BEAM GUARDRAIL

SGR09a-c

SHEET NO.

REF. NO.

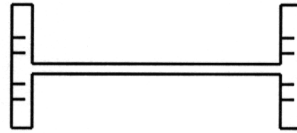
1 of 2

G9

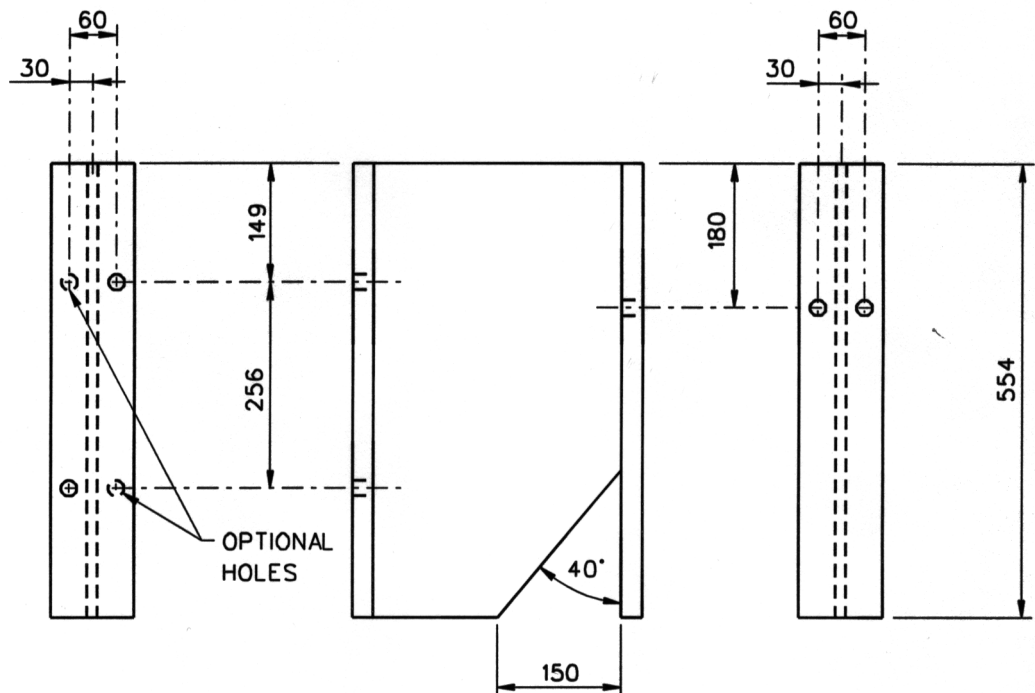
NOTES:

1. ALL HOLES ARE 20 D.

M360x25.6 OR W360x32.9
STRUCTURAL SHAPE



TOP



POST FACE

SIDE

TRAFFIC FACE

1994

MODIFIED THRIE BEAM BLOCKOUT

PWB03

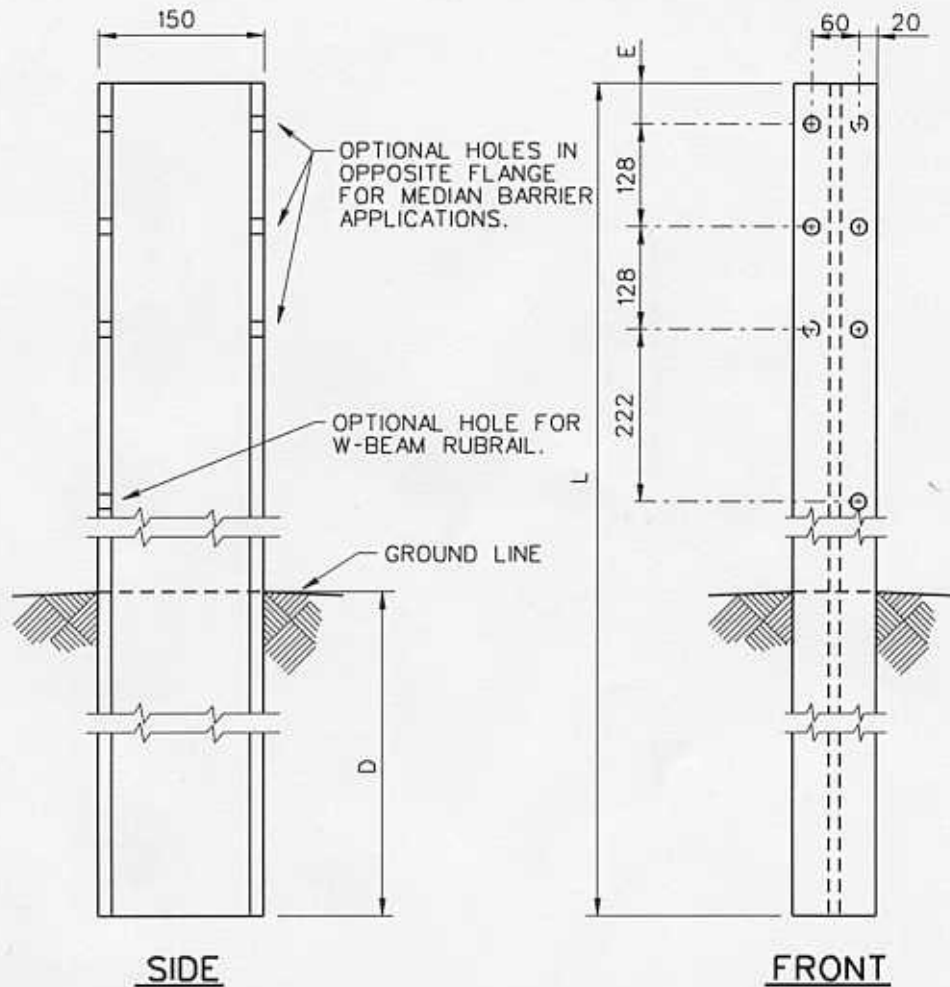
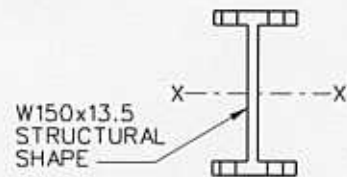
SHEET NO.

REF. NO.

1 of 2

NOTE: ALL HOLES ARE 20 D.

DESIGNATOR	L	D	E
PWE01	1830	1100	52
PWE02	1980	1250	52
PWE03	1980	1153	149
PWE04	2060	1173	149



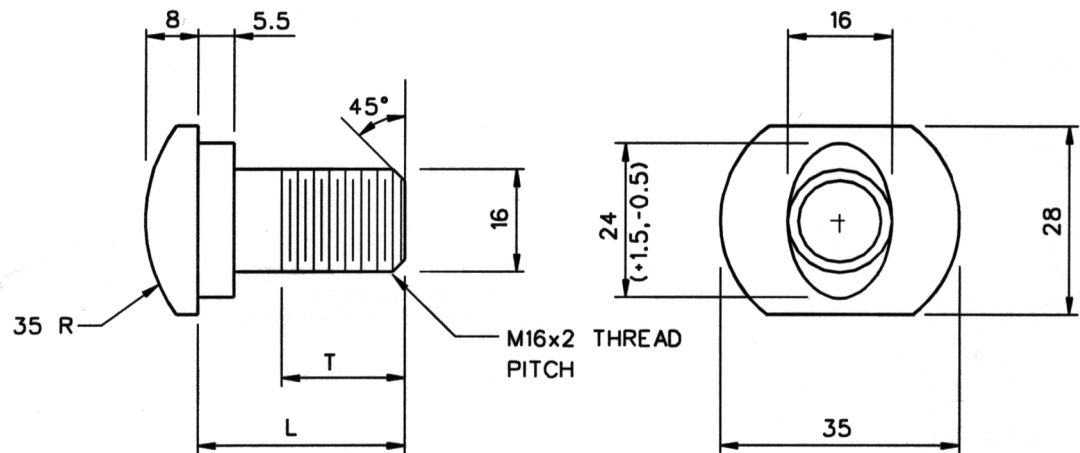
1994

WIDE-FLANGE GUARDRAIL POST

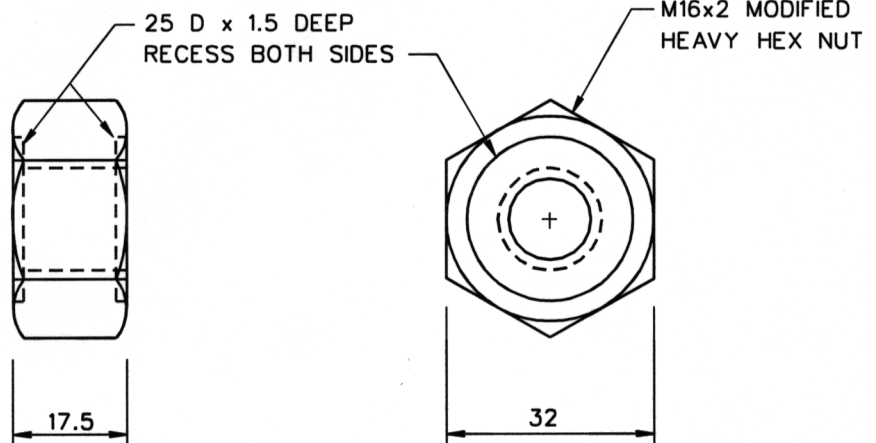
PWE01-04

SHEET NO.	REF. NO.
1 of 2	P-10-79

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 2
 2. IF THE BOLT EXTENDS MORE THAN 6 FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.



DESIGNATOR	L	T (MIN)
FBB01	35	30
FBB02	50	45
FBB03	255	100
FBB04	460	100
FBB05	640	100



1976

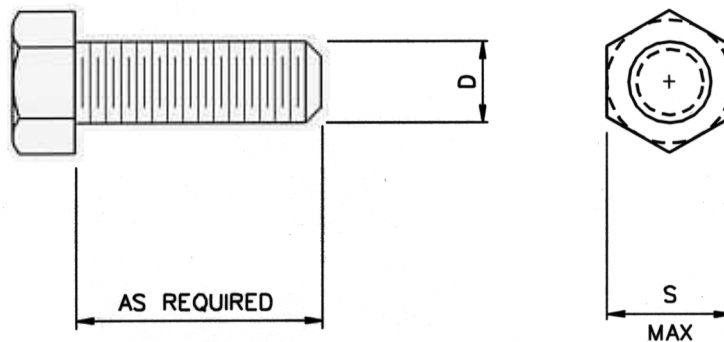
GUARDRAIL BOLT AND RECESSED NUT

FBB01-05

SHEET NO.

REF. NO.

1 of 2



DESIGNATOR	ANSI SIZE	D	M	S
FBX06a	M6x1	6	5.2	10.0
FBX08a	M8x1.25	8	6.8	13.0
FBX10a	M10x1.5	10	8.4	16.0
FBX12a	M12x1.75	12	10.8	18.0
FBX14a	M14x2	14	12.8	21.0
FBX16a	M16x2	16	14.8	24.0
FBX20a	M20x3	20	18.0	30.0
FBX24a	M24x3	24	21.5	36.0



1994

HEX BOLT & NUT

FBX06a-24a

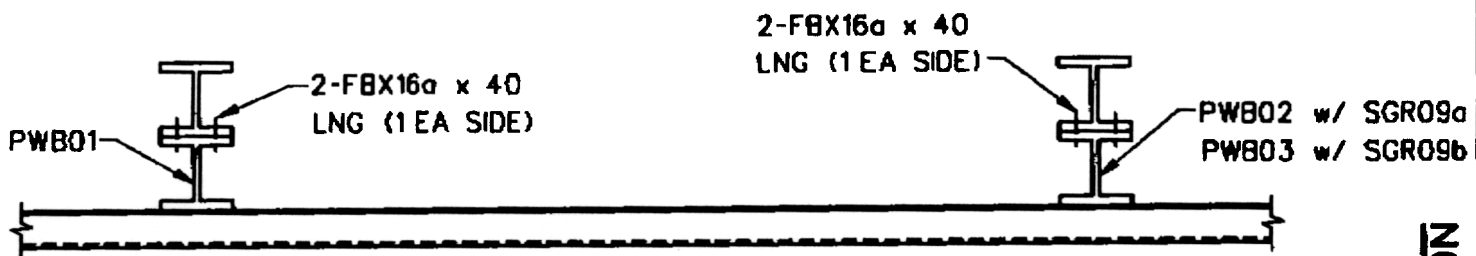
SHEET NO.

REF. NO.

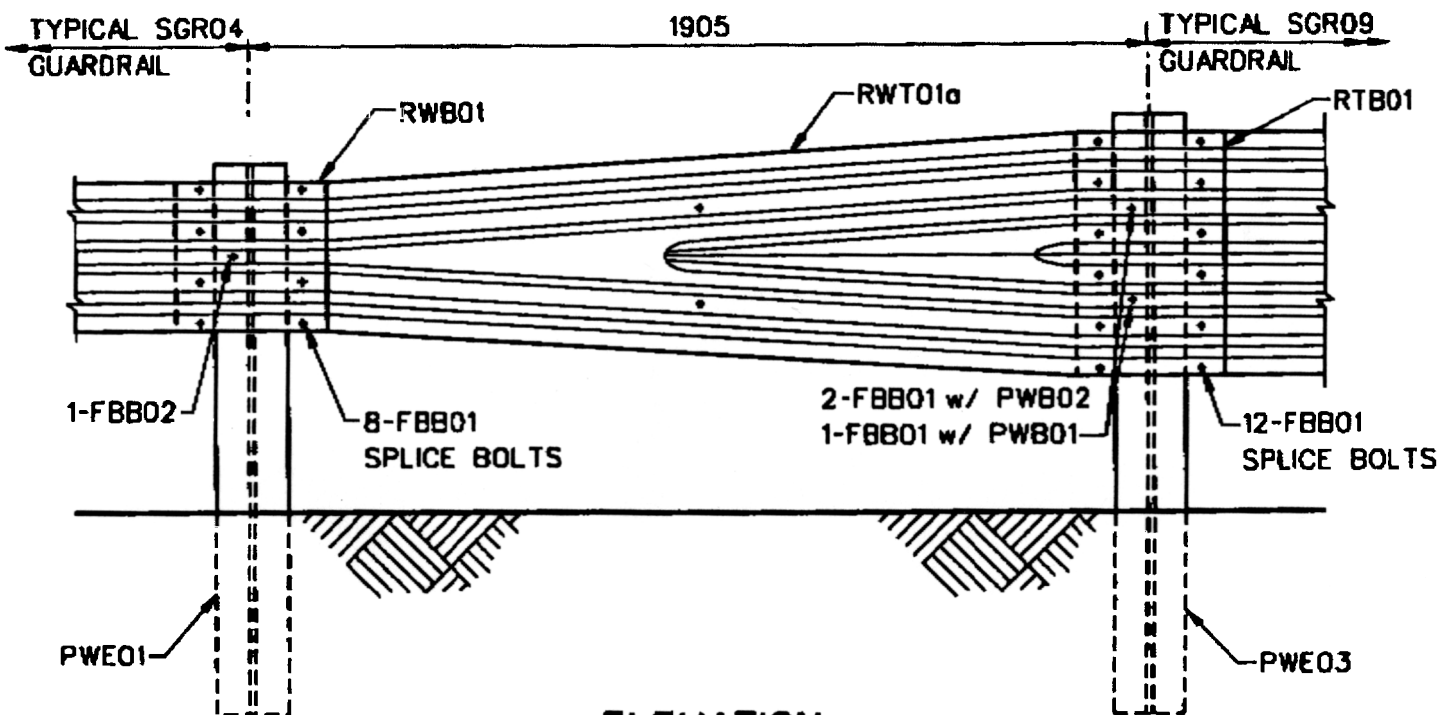
1 of 2

F-6-76

NOTE: THIS TRANSITION MAY ALSO BE USED WITH WOOD POSTS (PDE02) OR BLOCKOUTS (PDB01 & PDB02)



PLAN



ELEVATION

W - TO THRIE-BEAM TRANSITION



STG01

SHEET NO. REF. NO.

1 of 2

INTENDED USE

This system is used to provide a smooth transition between an SGR04a-b w-beam guardrail and an SGR09a-c thrie-beam barrier. This system was successfully tested as a transition between an SGR02a weak-post w-beam guardrail and a thrie-beam bridge railing. It is generally regarded as a suitable transition between any w-beam to thrie beam barrier system.

COMPONENTS

Unit Length = 1905

Designator	Component	Number
FBF01	Splice bolts and nuts	20
FBF02	Rail-blockout bolts and nuts	3
FBX16a	Post-blockout bolt (40 mm) and nut	4
PWB01	W-beam blockout	1
PWB02	Thrie-beam blockout (SGR09a)	1
or PWB03	Modified thrie-beam blockout (SGR09b)	1
PWE01a	Steel w-beam post	1
PWE03	Steel thrie-beam post	1
RTB01a	Thrie-beam backup plate	1
RWB01a	W-beam backup plate	1
RWT01a	W- to thrie-beam transition element	1

REFERENCE

J. E. Bryden and R. G. Phillips, "Performance of a thrie-beam steel-post bridge railing system; in *Application of Safety Appurtenances*, Transportation Research Record 1024, National Research Council, Washington, D.C., 1985.

W- TO THRIE BEAM TRANSITION**STG01**

SHEET NO.

2 of 2

DATE

04-10-95

